

TECHNOLOGY



Sundial

BOX NOTICE

Name of the activity	The sundial
Activity duration	1-2 hours
Material needed	Sundial box
Number of pupils involved (per box)	3-4 (alternative activities from the Creation of the elements sheet may involve more pupils)

Step 1: Creation of the leporello

Follow the instructions to build the leporello that you will show in class. The eccentric illustrations aim at creating a playful atmosphere with your pupils and help with your storytelling! Consider the following steps as guidelines: you may adapt your storytelling to your audience and make any changes that you see fit. The goal is to make children speak, they must be part of the experience. Do not hesitate to show a picture and ask questions about it: the drawing style should enable your pupils to speak.

Warning: please build the sundial before showing it to the class. This way you will spare some time in the classroom and get to help pupils who are stuck.

Step 2: Storytelling, part 1

The first part focuses on an “imaginary” time before the sundial existed. It tells the story of humanity in a creative way and explores the big questions that men and



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women of that era might have asked themselves. We can say that it doesn't follow a strict chronological order, and the characters can be used as we wish.



The very concept of time hides itself from human understanding: what is it? How can you measure it? Why would anyone do such a thing? (let your pupils answer those questions!)



The sun was a source of light, and revered as a god in many cultures. What are people doing in this picture? Can you think of other uses for the sun three thousand years ago? (your students may answer that one person is sheltering from the heat of the sun while the other plays in its light.)



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One day, someone noticed their shadow. It moved with them but, most importantly, it grew or shrunk depending on what time it was. The shadow was easy to see when there was light, and hard to see when it was dark or even cloudy. Can you see your own shadow right now? What is causing it? (inside the classroom it might be the lamps, and if there are many, the shadows may be hard to see).



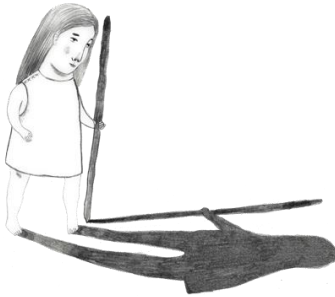
When the sun is high, the shadow is very small and lies right beneath your feet. However, when the sun goes down, all the shadows around you grow and the smallest items look very big. Do you know why that is?



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The problem with the human shadow is that people move, and so do their shadows! Therefore it can be hard to find out what time it is consistently. By planting a stick into the ground, you may have a reliable time indicator.

Step 3: Storytelling, part 2

The second part, instead, is dedicated to the moment when the Egyptians built the first sundial, around three thousand years ago, likely used to mark the hours of work.

The first example of a sundial was found in the Valley of the Kings, dating back to around 3500 B.C. The images provided evoke some aspects of the lifestyle and certain deities of Ancient Egypt.

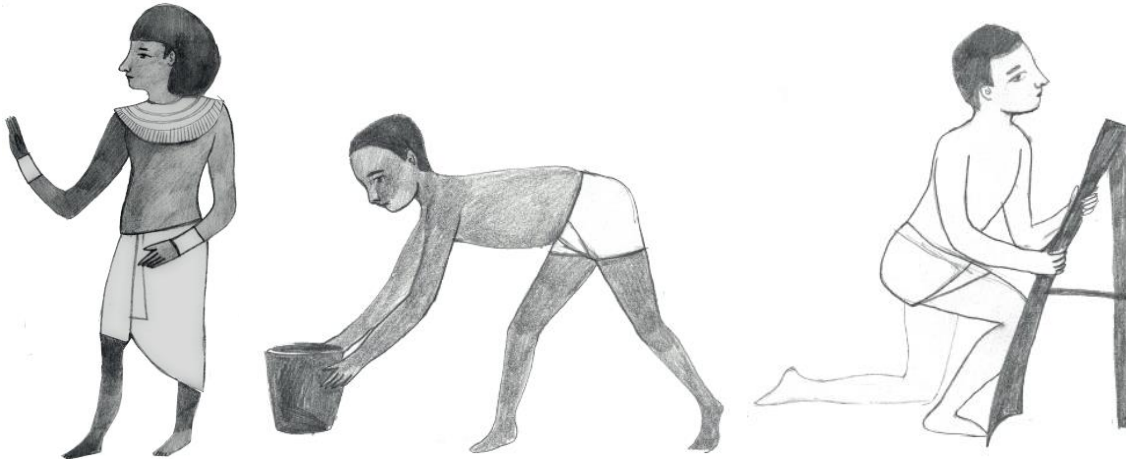


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Each hour was marked and praised a different god. Anubis was the god worshipped before dusk, do you know what god he was? What was the name of the god of the sun?



Sundials are easy to make and are rather accurate: dividing the day into hours allowed to create schedules: people could work, eat and worship their gods at specific times of the day. What are the workers doing in the pictures?

You may now allow your pupils to open their own boxes. This task can be done in groups of three or four pupils. They should start with the creation of the sundial as indicated on the “Sundial creation” sheet in their boxes, then add the characters from the story. How much do they remember? Are they ready to take on the alternative activities?

The teacher before the storytelling in classroom must have already realized the sundial and to be able to then show how to create it.